



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,087	09/28/2004	Nozomu Sugo	258970US0XPCT	9940
22850	7590	03/17/2009		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER MCCRACKEN, DANIEL	
			ART UNIT 1793	PAPER NUMBER
			NOTIFICATION DATE 03/17/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No. 10/509,087	Applicant(s) SUGO ET AL.	
	Examiner DANIEL C. MCCracken	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40, 42-48 and 50-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-28 is/are allowed.
- 6) ☒ Claim(s) 29-40, 42-48 and 50-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Citation to the Specification will be in the following format: (S. # : ¶/L) where # denotes the page number and ¶/L denotes the paragraph number or line number. Citation to patent literature will be in the form (Inventor # : LL) where # is the column number and LL is the line number. Citation to the pre-grant publication literature will be in the following format (Inventor # : ¶) where # denotes the page number and ¶ denotes the paragraph number.

Status of Application

Claims 1-40, 42-48 and 50-52 are pending. Claims 41 and 49 have been cancelled. Claims 38-40 and 48 have been amended. The amendments will be entered.

Allowable Subject Matter

Claims 1-28 are allowed. The following is a statement of reasons for the indication of allowable subject matter: Upon reconsideration, the prior art of record did not teach or suggest a method wherein the alkali metal hydroxide and carbonaceous material was mixed together in a solid state. Thus, with respect to WO 01/13390 (US 7,214,646) to Fujino, et al., upon reconsideration, it would appear as if the heating *e.g.* (Fujino 5: 29-30 *and* 6:1) would melt any alkali metal hydroxide, *i.e.* it would not be maintained in a "solid state" to facilitate the dehydration.

With respect to Claim 28, while this claim is a product-by-process claim (which is not limited by the process, only the structure or composition suggested by the process steps), here the claim suggests a carbonaceous substance / alkali hydroxide mixture wherein the alkali

Art Unit: 1793

hydroxide has less water in it (*i.e.* it has been “dehydrated”). Stated different, Applicants are claiming the intermediate (*i.e.* non-activated) product, not taught or suggested by the prior art.

Updating of the search yielded the following pieces of prior art:

1. US 5,956,225 to Okuyama, et al.
2. US 5,891,822 to Oyama, et al.

Okuyama discloses chemical activation of carbonaceous substances with alkali hydroxides, including KOH. *See e.g.* (Okuyama 4: 50-55). Okuyama states “[t]he activator may be used in the form as it is, without preparing the aqueous solution thereof.” (Okuyama 5: 1-2). Thus, it would appear as if “solid state” KOH can be utilized. The temperatures taught by Okuyama however (Okuyama 4: 60 *et seq.*) appear to be hot enough to melt the KOH crystals, and as such, any KOH/carbonaceous material would not be mixed and dehydrated in the “solid state” as required by independent Claim 1.

Oyama similarly teaches chemical activation of carbonaceous substances. *See generally* (Oyama 7: 9 *et seq.*). Oyama suggests the use of “solid” KOH by virtue of mixing with the carbonized powder. (Oyama 8: 20-22). Oyama however does not suggest the temperature at which this mixing was conducted. Likewise, Oyama does not teach a temperature that would dehydrate the alkali hydroxide in the mixture - to the contrary, Oyama teaches holding the mixture at 860 C, a temperature that would melt the KOH. (Oyama 8: 22).

Response to Arguments, Remarks

Claims 1-28 are believed to be addressed in the discussion accompanying the indication of allowable subject matter *supra*. The remaining claims (29-40, 42-48, and 50-52) are addressed below:

Claim Rejections – 35 U.S.C. §102

With respect to the remaining rejection of Claims 29-37 as being anticipated by WO 01/13390 (US 7,214,646) to Fujino, et al., Applicants traversal was largely directed to the method claims (Claim 1 and claims depending therefrom) and not Claims 29-37, *i.e.* the product claims. With respect to Claim 29, this claim is a product-by-process claim which - as noted above - is not limited by the process, but only the composition or structure suggested by the process steps. *See generally* MPEP 2113 (discussing product-by-process claims). All the claim requires is activated carbon. The presence or lack of a dehydrated alkali activator is immaterial, as the temperatures needed to activate the carbon/alkali mix are such that any water molecules in the alkali hydroxide crystal are driven off/volatilized. The composition of the resulting product suggests: (1) carbon and (2) an alkali metal, both of which are taught by Fujino. *See generally* (Fujino col. 5-6) (teaching alkali activation of carbonaceous substances). With respect to Claim 30, this claim is likewise a product-by-process claim. Given that alkali activation is claimed and taught by Fujino, it is expected that any properties claimed are necessarily present. Finally, with respect to Claims 31-37, which incorporate the activated carbon of Claim 29, similar arguments apply. All that is required of Claim 29 is activated carbon which has been activated by an alkali hydroxide. As noted above, Fujino teaches this. The remaining particulars of the claims are

Art Unit: 1793

unremarkable, claiming common parts of the electrode which - as previously identified - are taught by Fujino. The rejections of Claims 29-37 are MAINTAINED.

With respect to the rejection of Claims 38, 41-42, 46 and 47 as being anticipated by WO 00/78138 (US 6,902,589) to Guderian, et al., cancellation of Claim 41 moots that rejection. Accordingly, the rejection of that claim is WITHDRAWN. Applicants traversal appears to be on the grounds that "Claim 38 requires that the alkali metal hydroxide be in powder form when preparing the mixture comprising the carbonaceous material, which is also in powder form, with the alkali metal hydroxide." (Remarks of 12/3/2008 at 15). As Guderian would appear to be limited to KOH solutions (Guderian 4: 2) and the claims as amended require "an alkali metal hydroxide in powder form," the rejection of Claim 38 and its dependent claims (Claims 42, 46 and 47) is WITHDRAWN.

Claim Rejections – 35 U.S.C. §103

Applicants argued the Fujino rejections (§102, §§102/103, and §103) together. By addressing Fujino above, the rejections under §§102/103 and §103 are believed to be addressed. The rejections under 35 U.S.C. §§102/103 and §103 are MAINTAINED, updated to reflect the indication of allowable subject matter.

In light of the remarks above and Applicants amendment, the rejection over Guderian in view of Otowa is WITHDRAWN.

With respect to the rejection of Claims 39, 43, 45, and 49-52 over Guderian in view of Bozarth, amendment of Claim 39 to recite "alkali metal hydroxide in powder form" obviates the rejection. Accordingly, the rejection is WITHDRAWN.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 29-37 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 01/13390 to Fujino, et al. (US 7,214,646 B1 will be treated as a translation to which citations will be made.).

With respect to Claims 29-37, it is noted that these claims are drafted in product-by-process format. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted). *See also* MPEP 2113, *et seq.* Thus, with respect to Claims 29-31, activated carbons, electrodes, etc. (which is all that the claim requires), are clearly taught. (Fujino 2: 1 *et seq.*). As noted above, the process limitations (while having absolutely no relevance to patentability) are taught. It is further noted that iron and nickel is explicitly taught over a range of 0.1-10 wt% (Fujino 8: 43 *et seq*) and density and capacitance values claimed are recited. (Fujino “Table 1”). As to Claim 35, a “double layer” capacitor is taught. *See* (Fujino “Title”). Finally, with respect to any claims that express esoteric properties (e.g. Claims 30, 37) it is expected - owing to the identical process - that these properties are present. *See above* with respect to inherency burden shifting.

Art Unit: 1793

Claims 38, 40, 42, and 46-47 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,956,225 to Okuyama, et al.

With respect to Claim 38, Okuyama teaches adding KOH to a carbonaceous substance. (Okuyama 4: 10 *et seq.*). The alkali metal hydroxide can be in its solid state. (Okuyama 5: 1-2). Heating and molding is taught. (Okuyama 5: 55-57). Note that Claim 38 – while reciting “with the aid of an alkali metal hydroxide while maintaining a solid state” in the preamble, doesn’t require any maintenance of the material in the solid state in the body of the claim versus, e.g. Claim 1. Stated differently, there are no steps claimed that require maintaining a solid (versus molten) state, and as such the language in the preamble is not given weight as it “does not breath life into the claim.” *See* MPEP 2111.02 (Effect of Preamble). As such, the remarks made with respect to Okuyama above in connection with Claim 1 don’t apply here, as Claim 38 (and indeed Claim 39, although Claim 39 is not rejected here) does not require the particulars of Claim 1. As to Claim 40, the ratio appears to be taught. (Okuyama 5: 1-5). As to Claim 42, KOH is taught. (Okuyama 4: 53). As to Claim 46, the surface area would appear to be taught – at least for 1000 m²/g. (Okuyama 3: 42). As to Claim 47, this claim doesn’t require nickel or the lack thereof.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 1793

Claims 29-37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 01/13390 to Fujino, et al. (US 7,214,646 B1 will be treated as a translation to which citations will be made.)

The discussion accompanying the anticipation rejection *supra* is expressly incorporated herein by reference. As to the 102/103 rejections, this practice has been sanctioned for product-by-process claims. *See* MPEP 2113.

Claims 29-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/13390 to Fujino, et al. (US 7,214,646 B1 will be treated as a translation to which citations will be made.).

The discussion accompanying the anticipation rejection *supra* is expressly incorporated herein by reference. With respect to Claims 32-34, optimization of metal content does not impart patentability. *See* (Fujino 9: 1 *et seq.*) (discussing the effect of metal); *In re Boesch*, 205 USPQ 215, 219 (CCPA 1980) (optimization of result effective variables).

Claims 38, 40, 42, 44 and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,956,225 to Okuyama, et al.

With respect to Claim 38, Okuyama teaches adding KOH to a carbonaceous substance. (Okuyama 4: 10 *et seq.*). The alkali metal hydroxide can be in its solid state. (Okuyama 5: 1-2). Heating and molding is taught. (Okuyama 5: 55-57). As to Claim 40, the ratio appears to be

Art Unit: 1793

taught. (Okuyama 5: 1-5). As to Claim 42, KOH is taught. (Okuyama 4: 53). As to Claim 44, to the extent Okuyama doesn't recite the mold pressure *in haec verba*, mold pressure is readily optimized to arrive at the appropriate capacitor thickness. As to Claim 46, the surface area would appear to be taught – at least for 1000 m²/g. (Okuyama 3: 42). As to Claim 47, this claim doesn't require nickel or the lack thereof.

Claims 39, 43, 45, and 48-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,956,225 to Okuyama, et al. in view of US 3,539,467 to Bozarth, et al.

With respect to Claim 39 to the extent this claim repeats limitations discussed in conjunction with Claim 38 in the anticipation rejection *supra*, those discussions are expressly incorporated herein by reference. To the extent Okuyama *may* disclose a generic pressing/molding versus the "hot-pressing" as claimed, this does not impart patentability. Bozarth teaches hot pressing of activated carbon. *See* (Bozarth 3: 60 *et seq.*). One would be motivated to employ hot pressing as Bozarth teaches and suggests that hot pressing "produces materials of greater hardness and attrition resistance." (Bozarth 3: 62-64). Note also the effect on pore structure. (Bozarth 4: 22 *et seq.*). As to Claim 43, the temperatures appear to be taught. (Bozarth 3: 10-24). As to Claim 45, optimizing the pressure does not impart patentability. As to Claim 48, the ratio appears to be taught. (Okuyama 5: 1-5). As to Claims 49-50, KOH is taught. (Okuyama 4: 53). As to Claim 51, the surface area would appear to be taught – at least for 1000 m²/g. (Okuyama 3: 42). As to Claim 52, since this claim doesn't explicitly require nickel, it reads on Okuyama.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

All amendments made in response to this Office Action must be accompanied by a pinpoint citation to the Specification (i.e. page and paragraph or line number) to indicate where Applicants are drawing their support.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL C. MCCracken whose telephone number is (571)272-6537. The examiner can normally be reached on Monday through Friday, 9 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel C. McCracken/
Daniel C. McCracken
Examiner, Art Unit 1793
DCM

/Stanley Silverman/
SPE, Art Unit 1793